

## Medicinal Plants

Medicinal plants, also called medicinal herbs, have been discovered and used in traditional medicine practices since prehistoric times. Plants synthesise hundreds of chemical compounds for functions including defense against insects, fungi, diseases and herbivorous mammals. Numerous phytochemicals with potential or established biological activity have been identified. However, since a single plant contains widely diverse phytochemicals, the effects of using a whole plant as medicine are uncertain. Further, the phytochemical content and pharmacological actions, if any, of many plants having medicinal potential remain unassessed by rigorous scientific research to define efficacy and safety.

A medicinal plant is a plant that is used with the intention of maintaining health, to be administered for a specific condition, or both, whether in modern medicine or in traditional medicine. In modern medicine, around a quarter of the drugs prescribed to patients are derived from medicinal plants, and they are rigorously tested. The World Health Organization estimates that some 80% of the world's population depends mainly on traditional medicine; perhaps some two billion people are largely reliant on medicinal plants. The use of plant-based materials including herbal or natural health products with supposed health benefits, is increasing in developed countries. This brings attendant risks of toxicity and other effects on human health, despite the safe image of herbal remedies.

Medicinal plants may provide three main kinds of benefit: health benefits to the people who consume them as medicines; financial benefits to people who harvest, process, and distribute them for sale; and society-wide benefits, such as job opportunities, taxation income, and a healthier labor force.

### Cultivation

Medicinal plants demand intensive management. Different species each require their own distinct conditions of cultivation. The World Health Organization recommends the use of rotation to minimize problems with pests and plant diseases. Cultivation may be traditional or may make use of conservation agriculture practices to maintain organic matter in the soil and to conserve water. In many medicinal and aromatic plants, plant characteristics vary widely with soil type and cropping strategy, so care is required to obtain satisfactory yields.

## Preparation

Medicinal plants are often tough and fibrous, requiring some form of preparation to make them convenient to administer. According to the Institute for Traditional Medicine, common methods for preparation of herbal medicines include decoction, powdering, and extraction with alcohol, in each case yielding a mixture of substances. Decoction involves crushing and then boiling the plant material in water to produce a liquid extract that can be taken orally or applied topically. Powdering involves drying the plant material and then crushing it to yield a powder that can be compressed into tablets. Alcohol extraction involves soaking the plant material in cold wine or distilled spirit to form a tincture. Traditional poultices were made by boiling medicinal plants, wrapping them in a cloth, and applying the resulting parcel externally to the affected part of the body. When modern medicine has identified a drug in a medicinal plant, commercial quantities of the drug may either be synthesized or extracted from plant material, yielding a pure chemical. Extraction can be practical when the compound in question is complex.

## Usage

Plant medicines are in wide use around the world. In most of the developing world, especially in rural areas, local traditional medicine is the only source of health care for people, while in developed world, alternative medicine including use of dietary supplements is marketed aggressively using the claims of traditional medicine.

## Safety

Plant medicines can cause adverse effects and even death, whether by side-effects of their active substances, by adulteration or contamination, by overdose, or by inappropriate prescription. Many such effects are known, while the others remain to be explored scientifically. There is no reason to presume that because a product comes from nature it must be safe: the existence of powerful natural like atropine and nicotine shows this to be untrue. Further, the high standards applied to conventional medicines do not always apply to plant medicines, and those can vary widely depending on the growth conditions of plants: older plants may be much more toxic than young ones, for instance.

## Common Medicinal Herbs

Most herbs have not been completely tested to see how well they work or to see if they interact with other herbs, supplements, medicines, or foods. Products added to herbal preparations may also cause interactions.

### Chamomile

Considered by some to be a cure-all, chamomile is commonly used as a sedative for anxiety and relaxation. It is used as a tea or applied as a compress, because it is used for wound healing and to reduce inflammation or swelling. It may increase drowsiness caused by medicines or other herbs or supplements.

### Echinacea

Echinacea is commonly used to treat or prevent colds, flu, and infections, and for wound healing. A 2014 study compared it with a placebo for treating colds. Results found that Echinacea did not have any effect on a cold. Other studies have also shown that long-term use can affect the body's immune system. It should not be used with medicines that cause liver problems. People allergic to plants in the daisy family may be more likely to have an allergic reaction to Echinacea. The daisy family includes ragweed, chrysanthemums, marigolds, and daisies.

### Feverfew

Feverfew was traditionally used to treat fevers. It is now commonly used to prevent migraines and treat arthritis. Side effects include mouth ulcers and digestive irritation. People who suddenly stop taking it for migraines may have their headaches return. Feverfew should not be used with nonsteroidal anti-inflammatory medicines because these medicines may change how well it works. It should not be used with warfarin or other anticoagulant medicines.

### Garlic

Garlic is used for lowering cholesterol and blood pressure. It has antimicrobial effects. Researchers are currently exploring garlic's possible role in preventing cancer. It should not be used with warfarin, because large amounts of it may affect clotting. For the same reason, large amounts should not be taken before dental procedures or surgery.

### Ginger

Ginger is used to ease nausea and motion sickness. Research suggests that ginger can relieve nausea caused by pregnancy or chemotherapy. Other areas

under investigation are in surgery and for nausea caused by motion. Reported side effects include bloating, gas, heartburn, and nausea.

### Ginkgo

Ginkgo leaf extract has been used to treat a variety of conditions such as asthma, bronchitis, fatigue, and tinnitus. It is also used to improve memory and to prevent dementia and other brain disorders. Some studies have supported its slight effectiveness. But exactly how ginkgo works isn't understood. Only extract from leaves should be used. Seeds contain ginkgo toxin. This toxin can cause seizures and, in large amounts, death. Because some information suggests that ginkgo can increase the risk of bleeding, it should not be used with nonsteroidal anti-inflammatory medicines, anticoagulants, anticonvulsant medicines, or tricyclic antidepressants.

### Ginseng

Ginseng is used as a tonic and aphrodisiac, even as a cure-all. Research is uncertain how well it works, partly because of the difficulty in defining "vitality" and "quality of life". There is a large variation in the quality of ginseng sold. Side effects are high blood pressure and tachycardia. It should not be used with warfarin, heparin, nonsteroidal anti-inflammatory medicines, estrogens, corticosteroids, or digoxin. People with diabetes should not use ginseng.

### Goldenseal

Goldenseal is used to treat diarrhea, and eye and skin irritations. It is also used as an antiseptic. It is also an unproven treatment for colds. Goldenseal contains berberine, a plant alkaloid with a long history of medicinal use in both Ayurvedic and Chinese medicine. Studies have shown that it is effective for diarrhea. But it's not recommended because it can be poisonous in high doses. It can cause skin, mouth, throat, and gastric irritation and is also not recommended because of the plant's endangered species status.

### Milk thistle

Milk thistle is used to treat liver conditions and high cholesterol, and to reduce the growth of cancer cells. It is a plant that originated in the Mediterranean region. It has been used for many different illnesses over the last several thousand years, especially liver problems.

### Saint John's wort

Saint John's wort is used as an antidepressant. Recent studies have not confirmed that there is more than a slight effect on depression. More research is needed to determine the best dose. A side effect is sensitivity to light, but this is only noted in people taking large doses of the herb. St. John's wort can cause a dangerous interaction with other commonly used medicines.

### Saw palmetto

Saw palmetto is used to treat benign hypertrophy (BPH). But recent studies have not found it to work well for this condition. Side effects are digestive upset and headache, both mild.

### Valerian

Valerian is used to treat sleeplessness and to reduce anxiety. Research suggests that valerian may be a helpful sleep aid, but there are no well-designed studies to confirm the results.

Make a summary of this text. Use between 250 – 300 words.

Translate the following paragraphs: Chamomile, Feverfew, Garlic, Gingko, Goldenseal, Saint John's wort.